Amendments to Claims:

This listing of claims replaces prior versions and listings of claims in the application:

Listing of Claims:

Please amend the claims of the present application as set forth below. A detailed listing of all claims is provided. A status identifier is provided for each claim in a parenthetical expression following each claim number. Changes to the claims are shown by strikethrough (for deleted matter) or underline (for added matter).

Claims 1-30 were originally filed.

Claims 1-3, 5-7, 9-15, 17-19, 21-23, 25-30 are currently amended.

Accordingly, claims 1-30 are pending.

Claim 1 (Currently amended): An ultra-thin optical fingerprint sensor with anamorphic optics comprising:

an image receiving panel;

an anamorphic optical lens of at least two optical magnification power;

a light source to illuminate the image receiving panel creating an illuminating light path;

a folding mirror to fold a light reflection from an image deposited on the image receiving panel through the image receiving panel to the anamorphic lens creating a folded light path; and

an imageing sensor; wherein the image sensor captures athe light reflection ~~from an image deposited on the image receiving panel~~ optically compensated by the anamorphic optical lens.;

wherein the folded light path defines a principal plane;

wherein the illuminating light path does not lie in the principal plane.

Claim 2 (Currently amended): The ~~anamorphic optics~~ ultra-thin optical fingerprint sensor of claim 1 wherein the anamorphic optical lens comprises a horizontal cylindrical lens and a vertical cylindrical lens.

Claim 3 (Currently amended): The ultra-thin optical fingerprint sensor of claim 1 wherein ~~a light source is provided perpendicular to the plane of the image captured~~ the illuminating light path is substantially perpendicular to the principal plane; wherein the folding mirror folds the folded light path by substantially 180 degrees.

Claim 4 (Original): The ultra-thin optical fingerprint sensor of claim 3 wherein the light source comprises a light emitting diode (LED).

Claim 5 (Currently amended): An ultra-thin optical scanner with anamorphic optics comprising:

an image receiving panel;

an anamorphic optical lens of at least two optical magnification power;

a light source to illuminate the image receiving panel creating an illuminating light path;

a folding mirror to fold a light reflection from an image deposited on the image capturing panel through the image capturing panel to the anamorphic lens creating a folded light path; and

an image~~ing~~ sensor; wherein the image sensor captures ~~a~~the light reflection ~~from an image deposited on the image capturing panel~~ optically compensated by the anamorphic optical lens~~.~~ ;

wherein the folded light path defines a principal plane;

wherein the illuminating light path does not lie in the principal plane.

Claim 6 (Currently amended): The ~~anamorphic optics~~ ultra-thin optical scanner of claim 5 wherein the anamorphic optical lens comprises a horizontal cylindrical lens and a vertical cylindrical lens.

Claim 7 (Currently amended): The ultra-thin optical scanner of claim 5 wherein ~~a light source is perpendicular to the plane of the image captured~~ the illuminating light path is substantially perpendicular to the principal plane; wherein the folding mirror folds the folded light path by substantially 180 degrees.

Claim 8 (Original): The ultra-thin optical scanner of claim 7 wherein the light source comprises a light emitting diode (LED).

Claim 9 (Currently amended): An ultra-thin optical image sensor with anamorphic optics comprising:

an image receiving panel;

an anamorphic optical lens of at least two optical magnification power;

a light source to illuminate the image receiving panel creating an illuminating light path;

a folding mirror to fold a light reflection from an image deposited on the image capturing panel through the image capturing panel to the anamorphic lens creating a folded light path; and

an image~~ing~~ sensor; wherein the image sensor captures a~~t~~he light reflection ~~from an image deposited on the image capturing panel~~ optically compensated by the anamorphic optical lens~~.~~;

wherein the folded light path defines a principal plane;

wherein the illuminating light path does not lie in the principal plane.

Claim 10 (Currently amended): The ~~anamorphic optics~~ ultra-thin optical image sensor of claim 9 wherein the anamorphic optical lens comprises a horizontal cylindrical lens and a vertical cylindrical lens.

Claim 11 (Currently amended): The ultra-thin optical ~~fingerprint~~ image sensor of claim 9 wherein ~~a light source is provided perpendicular to the plane of the image~~

~~captured~~ the illuminating light path is substantially perpendicular to the principal plane; wherein the folding mirror folds the folded light path by substantially 180 degrees.

Claim 12 (Currently amended): The ultra-thin optical ~~fingerprint~~ image sensor of claim 11 wherein the light source comprises a light emitting diode (LED).

Claim 13 (Currently amended): ~~An~~ The ultra-thin optical fingerprint sensor of claim 1 further ~~with anamorphic optics~~ comprising~~:~~

~~an image receiving panel;~~

~~an anamorphic optical lens of at least two optical magnification powers;~~

~~an imaging sensor; wherein the image sensor captures a light reflection from an image deposited on the image capturing panel optically compensated by the anamorphic optical lens;~~

~~a folding mirror to fold a light reflection from an image deposited on the image capturing panel through the image capturing panel to the anamorphic lens; and~~

a bending mirror to bend ~~a~~the light reflection from the anamorphic lens to the image~~ing~~ sensor.

Claim 14 (Currently amended): The ~~anamorphic optics~~ ultra-thin optical fingerprint sensor of claim 13 wherein the anamorphic optical lens comprises a horizontal cylindrical lens and a vertical cylindrical lens.

Claim 15 (Currently amended): The ultra-thin optical fingerprint sensor of claim 13 wherein ~~a light source is provided perpendicular to the plane of the image captured~~ the illuminating light path is substantially perpendicular to the principal plane; wherein the folding mirror folds the folded light path by substantially 180 degrees.

Claim 16 (Original): The ultra-thin optical fingerprint sensor of claim 15 wherein the light source comprises a light emitting diode (LED).

Claim 17 (Currently amended): ~~An~~ The ultra-thin optical scanner of claim 5 further ~~with anamorphic optics~~ comprising:

~~an image receiving panel;~~

~~an anamorphic optical lens of at least two optical magnification powers;~~

~~an imaging sensor; wherein the image sensor captures a light reflection from an image deposited on the image receiving panel optically compensated by the anamorphic optical lens;~~

~~a folding mirror to fold a light reflection from an image deposited on the image capturing panel through the image receiving panel to the anamorphic lens; and~~

a bending mirror to bend ~~a~~the light reflection from the anamorphic lens to the image~~ing~~ sensor.

Claim 18 (Currently amended): The ~~anamorphic optics~~ ultra-thin optical scanner of claim 17 wherein the anamorphic optical lens comprises a horizontal cylindrical lens and a vertical cylindrical lens.

Claim 19 (Currently amended): The ultra-thin optical scanner of claim 17 wherein ~~a light source is provided perpendicular to the plane of the image captured~~ the illuminating light path is substantially perpendicular to the principal plane; wherein the folding mirror folds the folded light path by substantially 180 degrees.

Claim 20 (Original): The ultra-thin optical scanner of claim 19 wherein the light source comprises a light emitting diode (LED).

Claim 21 (Currently amended): ~~An~~The ultra-thin optical image sensor of claim 9 further ~~with anamorphic opties~~ comprising~~:~~

~~an image receiving panel;~~

~~an anamorphic optical lens of at least two optical magnification powers;~~

~~an imaging sensor; wherein the image sensor captures a light reflection from an image deposited on the image receiving panel optically compensated by the anamorphic optical lens;~~

~~a folding mirror to fold a light reflection from an image deposited on the image receiving panel to the anamorphic lens; and~~

a bending mirror to bend a~~the~~ light reflection from the anamorphic lens to the imagei~~ng~~ sensor.

Claim 22 (Currently amended): The ~~anamorphic optics~~ ultra-thin optical image sensor of claim 21 wherein the anamorphic optical lens comprises a horizontal cylindrical lens and a vertical cylindrical lens.

Claim 23 (Currently amended): The ultra-thin optical image sensor of claim 21 wherein ~~a light source is provided perpendicular to the plane of the image captured~~ the illuminating light path is substantially perpendicular to the principal plane; wherein the folding mirror folds the folded light path by substantially 180 degrees.

Claim 24 (Original): The ultra-thin optical image sensor of claim 23 wherein the light source comprises a light emitting diode (LED).

Claim 25 (Currently amended): A method for ultra-thin optical fingerprint sensor comprising ~~of~~:

illuminating an image receiving panel via a light source creating an illuminating light path;

receiving an image on ~~an~~ the image receiving panel;

folding a light reflection from the image through the image receiving panel to an anamorphic lens creating a folded light path; wherein the folded light path defines a principal plane; wherein the illuminating light path does not lie in the principal plane;

processing the received image through ~~an~~the anamorphic lens; and

capturing and storing the processed image from the anamorphic lens.

Claim 26 (Currently amended): A method for ultra-thin optical scanner comprising ~~of~~:

illuminating an image receiving panel via a light source creating an illuminating light path;

receiving an image on ~~an~~the image receiving panel;

folding a light reflection from the image through the image receiving panel to an anamorphic lens creating a folded light path; wherein the folded light path defines a principal plane; wherein the illuminating light path does not lie in the principal plane;

processing the received image through ~~an~~the anamorphic lens; and

capturing and storing the processed image from the anamorphic lens.

Claim 27 (Currently amended): A method for ultra-thin optical image sensor comprising ~~of~~:

illuminating an image receiving panel via a light source creating an illuminating light path;

receiving an image on ~~an~~the image receiving panel;

folding a light reflection from the image through the image receiving panel to an anamorphic lens creating a folded light path; wherein the folded light path defines a principal plane; wherein the illuminating light path does not lie in the principal plane;

processing the received image through ~~an~~the anamorphic lens; and

capturing and storing the processed image from the anamorphic lens.

Claim 28 (Currently amended): The method of Claim 25 wherein the step of processing the received image comprises:

~~folding the received image via a folding mirror to direct the folded image to the anamorphic lens;~~

compensating the received~~folded~~ image with the anamorphic lens; and

bending the ~~compensated image~~ light reflection via a bending mirror to direct the compensated image towards an image sensor to capture the compensated image.

Claim 29 (Currently amended): The method of Claim 26 wherein the step of processing the received image comprises:

~~folding the received image via a folding mirror to direct the folded image to the anamorphic lens;~~

compensating the received~~folded~~ image with the anamorphic lens; and

bending the ~~compensated image~~ light reflection via a bending mirror to direct the compensated image towards an image sensor to capture the compensated image.

Claim 30 (Currently amended): The method of Claim 27 wherein the step of processing the received image comprises:

~~folding the received image via a folding mirror to direct the folded image to the anamorphic lens;~~

compensating the received~~folded~~ image with the anamorphic lens; and

bending the ~~compensated image~~ light reflection via a bending mirror to direct the compensated image towards an image sensor to capture the compensated image.